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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/705,277 | 11/10/2003 | Chris Zegelin | A35583 072797.0194 | .4912 |

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| EXAMINER |
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DAGOSTA, STEPHEN M

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| ART UNIT | PAPER NUMBER |
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2683

DATE MAILED: 09/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/705,277 | ZEGELIN, CHRIS | |
| | Examiner | Art Unit | |
| | Stephen M. D'Agosta | 2683 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8 and 9 is/are rejected.
- 7) ☒ Claim(s) 3 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION
Information Disclosure Statement

The information disclosure statement filed 4-5-2004 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the Bahl/Padmanabhan reference appears to be missing a page between the cover page and the second page (eg. page two is not the "start of the document", but rather appears to be continuing from a [missing] previous page). The examiner has lined through this reference and it is not considered. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e).
See MPEP § 609 ¶ C(1).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 rejected under 35 U.S.C. 102(e) as being anticipated by Ramaswamy et al. US 2004/0052232.

As per **claim 1**, Ramaswamy teaches a wireless data communications system (title) wherein mobile units become associated with access points (figure 1 shows users #110₁ and #110₂, and Access Points #104₁ and #104₂), and wherein association between a mobile unit and an access point is changed as mobile units move within an area having a plurality of access points (figure 1 shows system has knowledge of users

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#110₁ and #110₂, being associated with specific Access Points #104₁ and #104₂ based on their proximity to said Access Points, also see P#25), and wherein selection of an access point for association with a mobile unit is made according to selection criteria including a plurality of selection parameters (P#22 discloses using position from GPS and/or position from communication system, eg. AGPS and/or Loran, P#17. The primary examiner notes that there are many well known mobile positioning techniques such as AOA, TDOA, etc.), and wherein said system includes arrangements for determining location of a mobile unit within said area (abstract), the improvement wherein said selection parameters include location of said mobile unit when there are a plurality of access points available for association with said mobile unit (figure 1 and P#22 disclose that the system determines the location of the mobile as it pertains to which specific Access Point it is nearest and then connecting to that nearest Access Point).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Lewis US 6,259,898.

As per **claim 2**, Ramaswamy teaches claim 1 **but is silent on** wherein said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller.

Ramaswamy teaches mobile location determination via GPS, AGPS or other systems such as LORAN (P#17). Also he teaches a location database that stores the location of each APU (P#16).

Lewis teaches a WLAN with Access points (see figures 1-2) and a cell controller (figure 2, main processor #30).

The primary examiner takes **Official Notice** that position determination can be performed at various locations/components in a wireless system, eg. at a BTS, at a mobile w/GPS, at a Location Database per Ramaswamy, etc.. Hence one skilled would provide means for position determination at a cell controller.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller, to provide flexibility as to which component(s) in the system determines location, to include the BTS, Mobile, Cell Controller, Location Database, etc..

Claims 4-5 rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Hills et al. US 2002/0087264.

As per **claim 4**, Ramaswamy teaches claim 1 **but is silent on** wherein said selection parameters further include direction of change of location of said mobile unit.

Hills teaches "A system for determining a position of a user. The system includes a distance sensor in communication with a position tracking device. The distance sensor is for detecting movement by the user, and the position tracking device is for determining the position of the user based on detection of movement by the user and a relative change in direction input from the user. (Abstract, P#'s 6, 7 and 11, and figure 3, #44-46)

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said selection parameters further include direction of change of location of said mobile unit, to provide means for determining which direction the user is traveling to support handoff to another APU.

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As per **claim 5**, Ramaswamy teaches a wireless data communications system (title) wherein mobile units become associated with access points (figure 1 shows users #110₁ and #110₂, and Access Points #104₁ and #104₂), and wherein association between a mobile unit and an access point is changed as mobile units move within an area having a plurality of access points (figure 1 shows system has knowledge of users #110₁ and #110₂, being associated with specific Access Points #104₁ and #104₂ based on their proximity to said Access Points, also see P#25), and wherein selection of an access point for association with a mobile unit is made according to selection criteria including a plurality of selection parameters (P#22 discloses using position from GPS and/or position from communication system, eg. AGPS and/or Loran, P#17. The primary examiner notes that there are many well known mobile positioning techniques such as AOA, TDOA, etc.), **but is silent on** wherein said system includes arrangements for determining direction of change of location of a mobile unit within said area, the improvement wherein said selection criteria includes direction of change of location of said mobile unit when there are a plurality of access points available for association with said mobile unit.

Hills teaches "A system for determining a position of a user. The system includes a distance sensor in communication with a position tracking device. The distance sensor is for detecting movement by the user, and the position tracking device is for determining the position of the user based on detection of movement by the user and a relative change in direction input from the user. (Abstract, P#'s 6, 7 and 11, and figure 3, #44-46)

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said system includes arrangements for determining direction of change of location of a mobile unit within said area, the improvement wherein said selection criteria includes direction of change of location of said mobile unit when there are a plurality of access points available for association with said mobile unit, to provide means for determining which direction the user is traveling to support handoff to another APU.

Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy/Hills and further in view of Lewis US 6,259,898.

As per **claim 6**, Ramaswamy teaches claim 5 **but is silent on** wherein said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller.

Ramaswamy teaches mobile location determination via GPS, AGPS or other systems such as LORAN (P#17). Also he teaches a location database that stores the location of each APU (P#16).

Lewis teaches a WLAN with Access points (see figures 1-2) and a cell controller (figure 2, main processor #30).

The primary examiner takes **Official Notice** that position determination can be performed at various locations/components in a wireless system, eg. at a BTS, at a mobile w/GPS, at a Location Database per Ramaswamy, etc.. Hence one skilled would provide means for position determination at a cell controller.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that said access points are RF Ports associated with a cell controller and wherein association functions are performed in said cell controller, to provide flexibility as to which component(s) in the system determines location, to include the BTS, Mobile, Cell Controller, Location Database, etc..

Claim 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Harrison US 2003/0036386.

As per **claim 8**, Ramaswamy teaches a wireless data communications system (title) wherein mobile units within an area become associated with access points (figure 1 shows users #110₁ and #110₂, and Access Points #104₁ and #104₂) and shows system has knowledge of users being associated with specific Access Points based on their proximity to said Access Points, also see P#25), and wherein said system includes arrangements for determining location of a mobile unit within said area (P#17 teaches location determination via GPS, AGPS, etc.), **but is silent on** a method for avoiding collisions of packets transmitted by said mobile units to an associated access point,

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comprising assigning mobile units in a selected portion of said area to another access point.

Harrison teaches "...In the present invention, it is contemplated that an Access Server, an Access Point, or an End-Point can initiate a hand-off from one radio to another. For example, the Access Server may force a hand-off in order to manage traffic congestion..." (P#71) which reads on the claim.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that it can avoid collisions of packets transmitted by said mobile units to an associated access point, comprising assigning mobile units in a selected portion of said area to another access point, to provide means for reducing congestion via a forced handoff from one APU to another APU.

Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy and further in view of Harrison and Forssen et al. US 5,848,358.

As per **claim 9**, Ramaswamy teaches a wireless data communications system wherein mobile units within an area become associated with access points (figure 1 shows users #110₁ and #110₂, and Access Points #104₁ and #104₂), and wherein said system includes arrangements for determining location of a mobile unit within said area (P#17 teaches location determination via GPS, AGPS, etc.), **but is silent on** a method for avoiding collisions of packets transmitted by said mobile units to an associated access point, comprising assigning mobile units in a first selected portion of said area to a first channel and assigning mobile units in a second selected portion of said area to a different channel.

The primary examiner notes that antenna sectorization is well known in the art and provides means for dividing a cell site into separate sectors so that channels can be separated and cause less interference and traffic congestion. Further to this point, intracell handoffs occur is two users are proximate each other whereby one can be handed-off to another sector/channel.

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Harrison teaches "...In the present invention, it is contemplated that an Access Server, an Access Point, or an End-Point can initiate a hand-off from one radio to another. For example, the Access Server may force a hand-off in order to manage traffic congestion..." (P#71) which reads on the claim.

Further to this point is **Forssen** who teaches an intracell handover (title) whereby the mobile station is handed-off from a first channel to a second channel within the same cell/area based upon measured spatial information (abstract and claim 1 and figures 1-2). One skilled would ensure handoffs occur to decrease traffic loading in cells that use techniques such as sectorization and beam-steering as well.

It would have been obvious to one skilled in the art at the time of the invention to modify Ramaswamy, such that it avoids collisions of packets transmitted by said mobile units to an associated access point, comprising assigning mobile units in a first selected portion of said area to a first channel and assigning mobile units in a second selected portion of said area to a different channel, to provide means for using handoffs via sectorization/beam-steering to reduce traffic congestion in the same cell.

Allowable Subject Matter

Claims 3 and 7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

For **claim 3**: The prior art of record does not teach or fairly suggest “..wherein said cell controller monitors traffic volume for said access points and wherein said selection parameters include range from said mobile unit to said access points, signal strength from said mobile unit to said access points and traffic volume for said access points..”

For **claim 7**: The prior art of record does not teach or fairly suggest “..wherein said cell controller monitors traffic volume for said access points and wherein said selection parameters include change of range from said mobile unit to said access points, signal strength from said mobile unit to said access points and traffic volume for said access points...”

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Bruckert US 5,596,333
2. Laroia et al. US 2004/0095902
3. Gunnarsson et al. US 2003/0118015
4. Bajikar US 2004/0203872
5. H. Gray US 2004/0203873
6. Moore et al. US 6,664,925
7. Annamalai US 2004/0203869

8. Goren et al. US 2002/0097182

9. Beach US 2003/0112820

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stephen D'Agosta
Primary Examiner
8-10-2005

A handwritten signature in black ink, appearing to be 'SD' or similar, located below the typed name of the examiner.